Psychology in Architecture

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25 / 02 / 2025

Psychology in Architecture

Psychology

- Cognitive psychology
- Health psychology
- Positive psychology
- School psychology
- Organisation psychology
- Traffic psychology
- Neuroscience
- Experimental Aesthetics

Architecture

- Architecture
- Interior design
- Landscape architecture
- City planning

- Architectural/Urban Psychology

- People – Environment studies
- Human factors of Design
- Design-behaviour
- People - Environment relations
- Environment-behaviour studies

- Environmental Psychology
- Social Psychology

What is environmental psychology?

- Origins of environmental psychology
- Principles of environmental psychology
- Structure of environmental psychology
- Definition of environmental psychology

What is environmental psychology?

- According to Cassidy (1997) definitions have their limitations:
  - They are over-simplified summaries of a field of inquiry; never encompassing everything that is related to it
  - They impose boundaries to a field of inquiry that may exclude important areas of research
  - They are never up-to-date given that psychology is continuously changing
- How then to characterize environmental psychology?
  - Through the principles that "environmental psychologists" share
  - Through the structure of the discipline (i.e., professional organizations, publication outlets)
  - Through its historical roots

Environmental Psychology

Study of the relationships between people and their everyday sociophysical environments (includes natural and <u>human-made or built environments</u>; as well as virtual or cyber based environments).

Origins of environmental psychology

- Environmental psychology has its roots not just in psychology but in building engineering as well

- The psychology roots are found in those thinkers who argued against the dominant disciplines in which behavior was explained either by characteristics of the individual (personism) or by characteristics of the situation (situationism);

- The building engineering roots are found in those thinkers who applied psychological insights to solving problems in architecture and urban planning (e.g., Newman's defensible space; or Jacob's view on urban renewal)
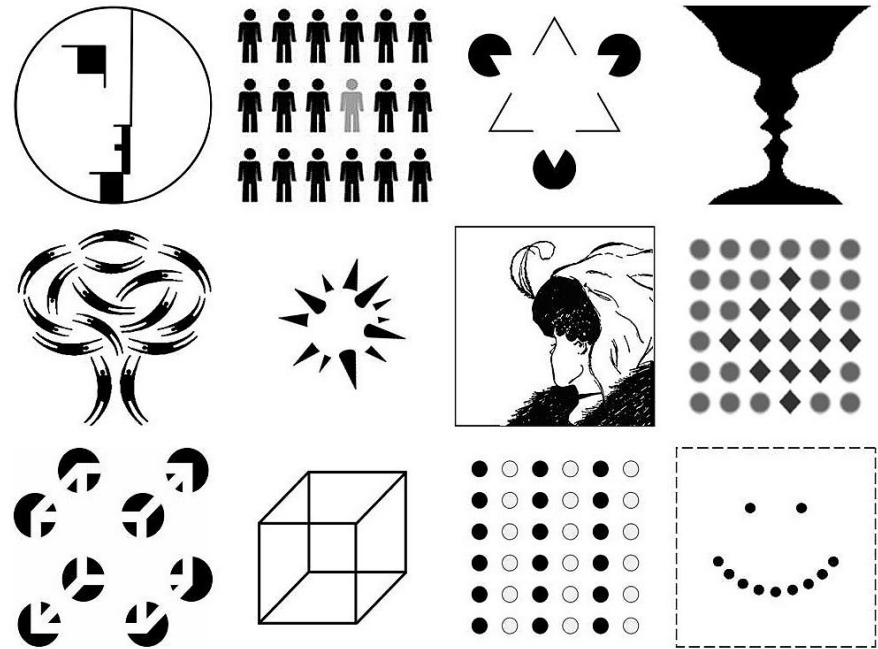
Origins of environmental psychology

- The first empirical psychological laboratory: Wundt (Leipzig, 1879)
- Titchener's Structuralism (1884)
- Behaviorism (1913): Watson, Pavlov, Skinner
- Gestalt psychology (1929): Wertheimer, Koffka, Köhler
- Personality psychology (1930): Allport, Cattell
- Kurt Lewin's field theory (1935)
- Barker's ecological psychology (1947)
- Brunswick's functionalism and representative design (1953)

Gestalt psychology

- Information is present not just in the individual stimuli, but in **how the stimuli are configured or structured into a whole**

- Gestalt = configuration

- "The whole is other [something else] than the sum of its parts"

- Meaning is derived not just from the individual elements but also from the way they are structured. The structure has properties that do not exist in any of its parts alone.

Kurt Lewin

Impacted the later field of environmental psychology in three ways:

- Argued that the behavior of an individual can only be understood when focusing on the **whole situation**: The person and the environment.

- Behavior is a function of person and environment (field theory; 1935): **B = F(P,E)**

- **Action research**: Using psychology to improve human well-being via participatory field experiments

Kurt Lewin's field theory (1935)

- Field Theory: Unit of analysis is "life space" (P & E): the totality (or whole) of individual (drives, attitudes) and environmental forces (rewards, barriers) that drive behavior

- E = Psychological Environment: It is the person's perception and interpretation (construal) of the environment that affects human behavior

- Psychological forces (positive and negative valences) can come from within the person (e.g., needs) or are perceived to be present in the environment by the individual at a given time.

- **How a person behaves in a given situation is determined by the totality of external and internal forces** (net force or vector sum)

Roger Barker

- In the laboratory experiment, the researcher interferes with the natural structure of the participant's ecological environment
- *"…existing methods showed **only how people could behave under contrived conditions**; the methods did not reveal **how people actually did behave when they were free** from the constraints imposed on them by the researcher"* (Wicker, 1997)
- Studying the role of the environment in extra-individual behavior requires an emphasis on the objective rather than the subjective environment
- **Critique on Lewin**: Life space is a psychological variable and thus dependent on the individual. Instead the ecological environment has to be described independent of the individual and his or her behavior

Barker's ecological psychology (1947)

- Barker realized that in order to understand the role of the environment, it somehow has to be described independent of the individual and his or her behavior

- **Behavior setting theory**: "Behavioral settings" are self-regulating, active systems, composed of people and objects (*synomorphs*), that coerce behavior in predictable ways

- They involve a **program** that regulates behavior, and that exists regardless of which individuals are involved

- Not all situations or environments are behavior settings, and a large part of his work is dedicated to identifying behavior settings

Egon Brunswik

- **Functionalism**: The mind has evolved in and thus is highly adapted to our ecological environment (i.e., the factual or objective environment)

- To understand the human mind, we first most need to **understand the structure of the environment** in which we function (understand what we are adapted to)

- Since we all share the same ecological environment, understanding individual differences in how people perceive and interpret the objective environment is of secondary concern (in contrast to Lewin)

- Valid interferences on the workings of the mind require that people are studied in an **environment that is a close approximation of their ecological environment**

Egon Brunswik

- Lens model (see lecture on environmental perception)
- Methodological contributions:
  - Experience sampling techniques
  - Representative design (ecological validity) of psychological experiments (the experiment must be representative to the ecological environment of the participants, to understand psychological mechanisms behind behavior and perception)

Three main principles of EnviroPsy

1) Interdisciplinarity

- Cognitive psychology, Social psychology …

- Architecture, Geography, Mathematics, Biology …

- Sociology, Anthropology, History …

(Environmental psychology is inherently interdisciplinary and is part of a broader field of environment-behaviour studies. Interdisciplinarity as the means to include the many necessary perspectives for understanding the interactions of people and place, while embracing the policy and design disciplines that shape our environments.)

Three main principles of EnviroPsy

2) Ecological validity

- Action research
  - Kurt Lewin
- Full-cycle model

(The adoption of field research that would operate outside of the laboratory, the received mode in psychology, where variables can be controlled and manipulated, to embrace the messy world of the everyday complex variables of people-environment relationships. Environmental psychology emphasizes both basic research and community problem solving.)

Three main principles of EnviroPsy

3) Interaction

- Environmental determinism
- B = f (P x E)
  - Kurt Lewin

(Environmental psychology is focused on the dynamic, reciprocal transactions between people and places, with emphasis on the role of psychological and behavioral processes.)

Environmental Determinism

1) Over-emphasis on influence of the physical environment vis-a-vis other influences (e.g., social group, personality)

2) The assumption that the influence of buildings is direct and that indirect influences (e.g., ascribed meanings) are negligible.

3) The typifying of people as passive; goalless creatures without will or choice;

4) Taking for granted that the physical environment will remain unchanged over time, and that people will not intervene actively in its modification.

Franck, K. A. (1984). Exorcising the ghost of physical determinism. Environment and Behavior, 16, 411–435.

Characteristics of Environmental Psychology

- Neither personism nor situationism: Behavior is shaped by both person and environment

- Holistic view on the environment: Environment not as a set of isolated stimuli but a totality (i.e., the molar vs molecular distinction)

- Eclectic methodology (a wide variety of research methods)

- Ecological validity through representative design (In contrast to other disciplines in psychology, more studies are conducted in the setting / in situ)

- Focuses on improving human well-being: Not always a sharp distinction between applied and fundamental research. That is: theories are often derived from applied research

Architectural side of things ....

Kevin Lynch

PATH   EDGE

DISTRICT   NODE   LANDMARK

Kevin Lynch: THE IMAGE OF THE CITY

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The Social Life of Small Urban Spaces
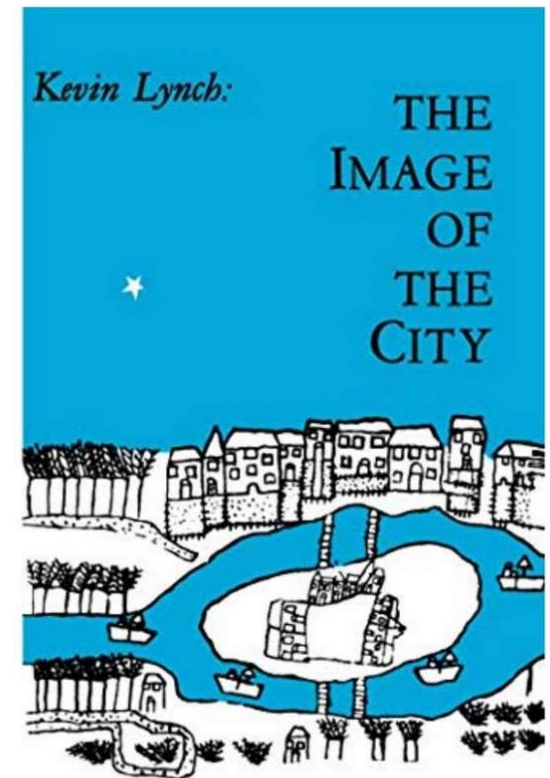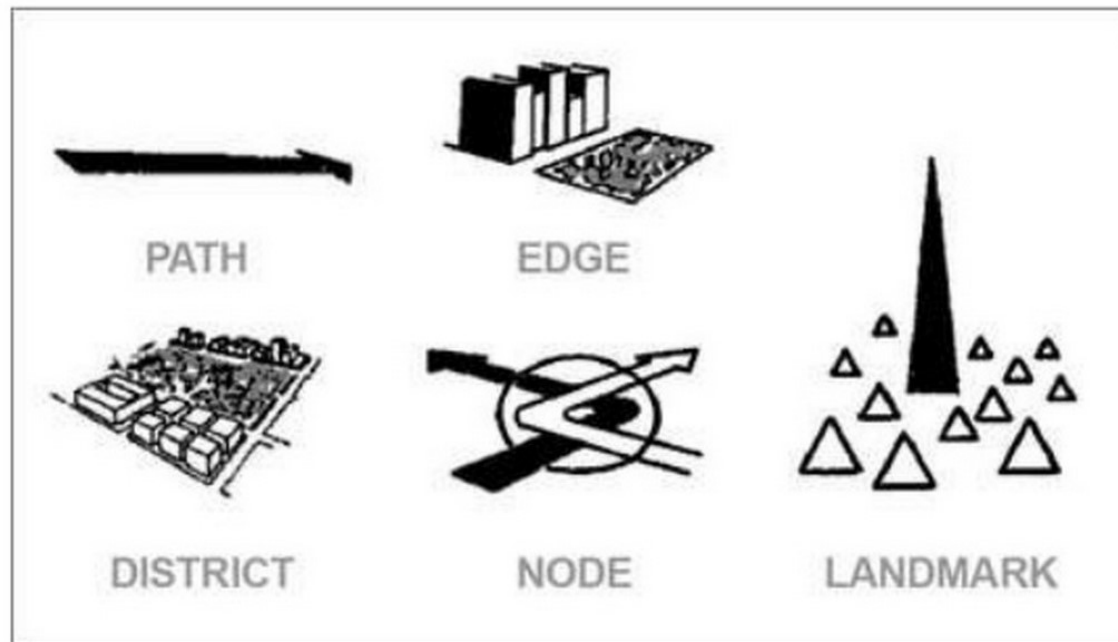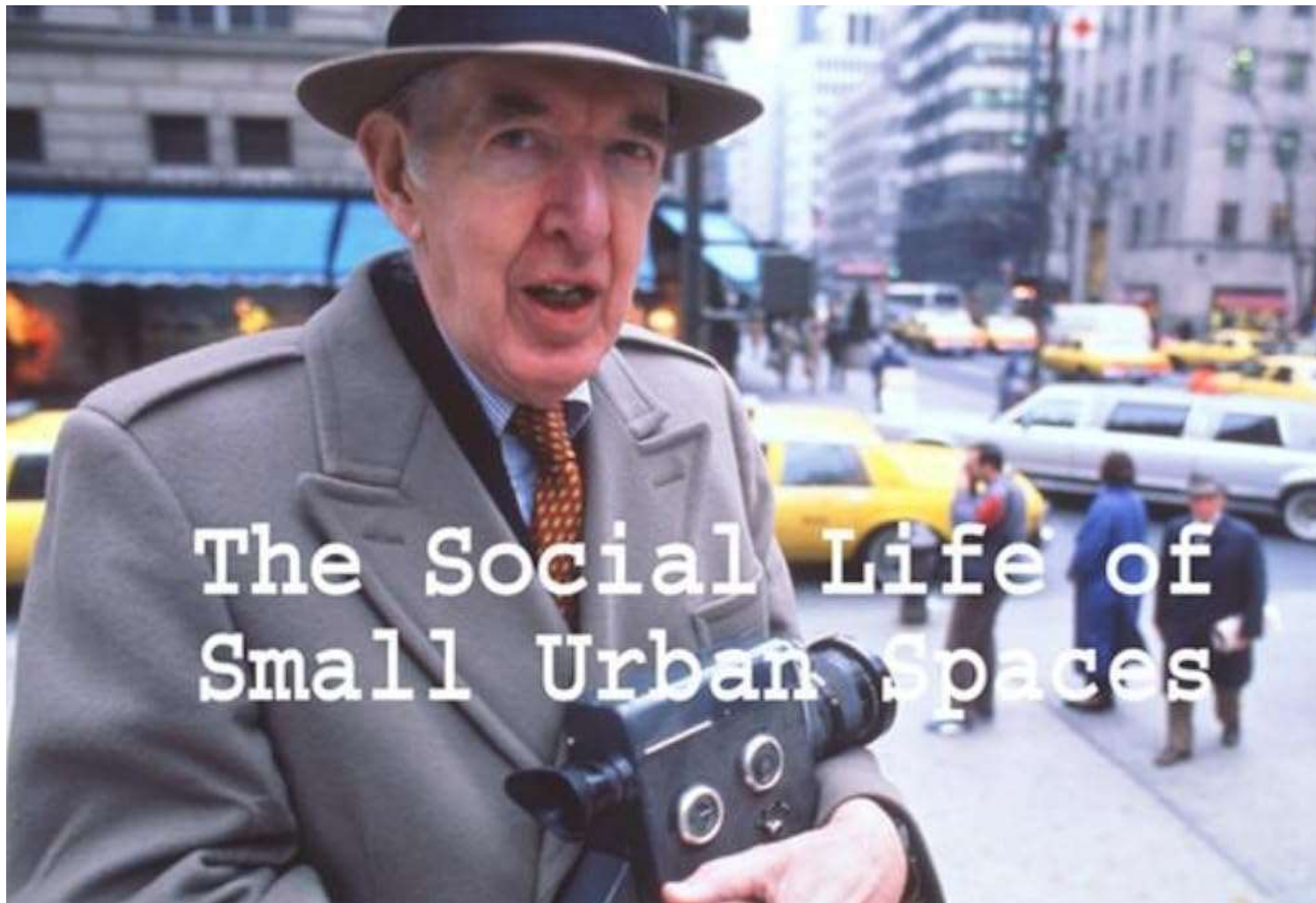
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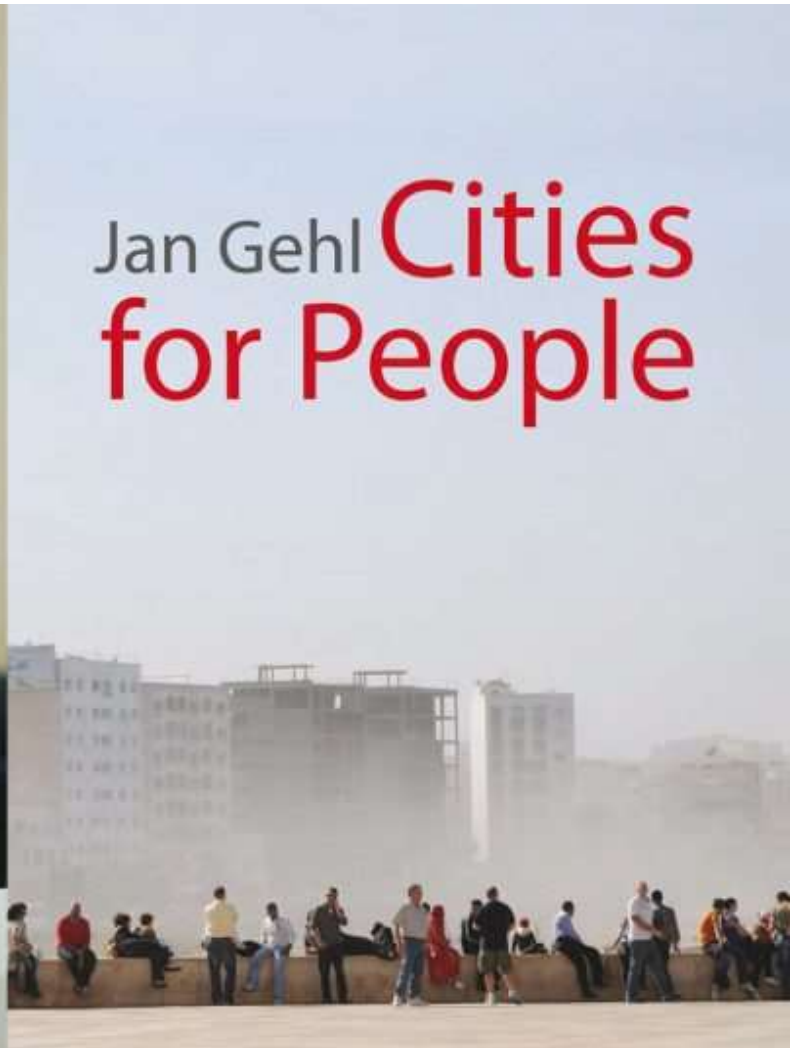
Space / Place

- Places are spaces to which meaning, feeling and/or emotional attachment have been given.
  - They may be locations or even affective characterizations that embody a particular environment with emotional attachment.
  - The meaning ascribed to a place can be achieved through individual, social, or cultural processes

- Changing a space to place is the existential purpose of architecture (Norberg-Schulz, 1985).

Placemaking

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Neuroarchitecture: How Your Brain Responds to Different Spaces

Neuroarchitecture: How the Perception of Our Surroundings Impacts the Brain

by Sarah Abbas [1,2,†] ✉ iD, Nathalie Okdeh [3,†] ✉ iD, Rabih Roufayel [4] ✉ iD, Hervé Kovacic [5] ✉ iD, Jean-Marc Sabatier [5] ✉ iD, Ziad Fajloun [3,6,*] ✉ iD and Ziad Abi Khattar [1,*] ✉ iD

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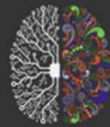
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Academy of Neuroscience for Architecture

THE CONSTRUCTOR
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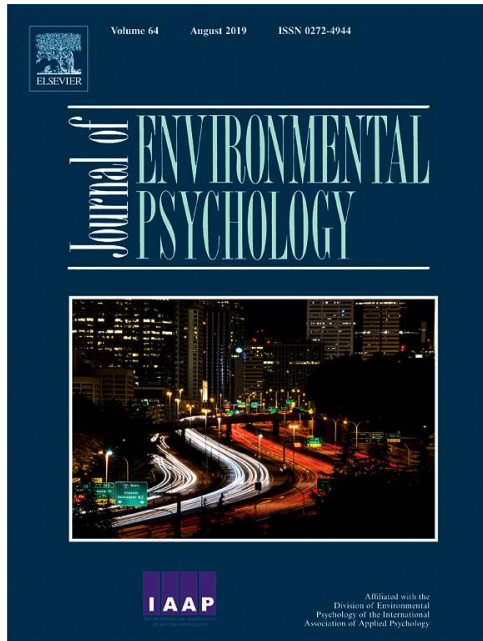
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Associations

- EDRA (https://www.edra.org/)
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- APA Div. 34 (https://www.apa.org/about/division/div34)
  - Society for Environmental, Population and Conservation Psychology
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  - Asociación de Psicología Ambiental
- Norway (https://miljopsykologi.com/)
  - Norsk miljøpsykologisk nettverk
- Japan (https://mera-web.jp/)
  - Man-Environment Research Association

Literature

Environmental Psychology

Principles and Practice

Fourth Edition

Robert Gifford

Environmental Psychology

Behaviour and Experience in Context

Tony Cassidy

A **Psychology Press** Book

Edited by LINDA STEG, AGNES E. VAN DEN BERG, and JUDITH I. M. DE GROOT

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